

**B. VHF High Band Transmission Plant, 30 KW ERP, with:**

<b>Transmitter - 5 KW</b>	<b>\$200K</b>
<b>HDTV Encoder (or Format Converter/Modulator)</b>	<b>\$100K</b>
<b>Remote Control System</b>	<b>\$30K</b>
<b>Antenna</b>	<b>\$250K</b>
<b>Transmission line (1000')</b>	<b>\$50K</b>
<b>Antenna/Line Installation Services</b>	<b>\$50K</b>
<b>Test Signal Inserter</b>	<b>\$26K</b>
<b>Test Equipment</b>	<b>\$65K</b>
<b>Precision Demodulator</b>	<b>\$22K</b>
<b>Demultiplexer</b>	<b>\$15K</b>
<b>HD Color Monitor 14"</b>	<b>\$11K</b>
<b>Precision WM</b>	<b>\$12K</b>
<b>HD Signal Monitor</b>	<b>\$20K</b>
<b>Audio Processing</b>	<b>\$6K</b>
<b>Audio Monitoring</b>	<b>\$10K</b>
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<b>Total</b>	<b>\$867K</b>

**C. UHF Transmission Plant, 150 KW ERP, with:**

<b>Transmitter - 20 KW</b>	<b>\$300K</b>
<b>HDTV Encoder (or Format Converter/Modulator)</b>	<b>\$100K</b>
<b>Remote Control System</b>	<b>\$30K</b>
<b>Antenna</b>	<b>\$250K</b>
<b>Transmission line (1000')</b>	<b>\$80K</b>
<b>Antenna/Line Installation Services</b>	<b>\$50K</b>
<b>Test Signal Inserter</b>	<b>\$26K</b>
<b>Test Equipment</b>	<b>\$65K</b>
<b>Precision Demodulator</b>	<b>\$22K</b>
<b>Demultiplexer</b>	<b>\$15K</b>
<b>HD Color Monitor 14"</b>	<b>\$11K</b>
<b>HD Precision Waveform Monitor</b>	<b>\$12K</b>
<b>HD Signal Monitor</b>	<b>\$20K</b>
<b>Audio Processing</b>	<b>\$6K</b>
<b>Audio Monitoring</b>	<b>\$10K</b>
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<b>Total</b>	<b>\$997K</b>

**Sample Transmission Package 1****10 KW ERP VHF, (Low Band) (best case)****Existing tower site**

Existing Tower, minor modification	\$10K
Existing building, minor modifications	\$10K
Legal fees, no complaints	\$5K
Engineering/antenna	\$36K
Engineering/FAA&FCC	\$50K
Engineering/tower	\$8K
Transmission Plant	\$817K

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Total	\$936K
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**Sample Transmission Package 2****10 KW ERP VHF, (Low Band) (worst case)**

New tower site & tower	\$2,410K
New building	\$113K
Legal fees	\$50K
Engineering/antenna system	\$36K
Engineering/FAA&FCC	\$50K
Engineering/tower	\$8K
Transmission Plant	\$817K

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Total	\$3,484K
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**Sample Transmission Package 3****30 KW ERP VHF, (High Band) (best case)****Existing tower site**

Existing Tower, minor modification	\$10K
Existing building, minor modifications	\$10K
Legal fees, no complaints	\$5K
Engineering/antenna	\$36K
Engineering/FAA&FCC	\$50K
Engineering/tower	\$8K
Transmission Plant	\$867K

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<b>Total</b>	<b>\$986K</b>
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**Sample Transmission Package 4****30 KW ERP VHF, (High Band) (worst case)**

New tower site & tower	\$2,410K
New building	\$113K
Legal fees	\$50K
Engineering/antenna system	\$36K
Engineering/FAA&FCC	\$50K
Engineering/tower	\$8K
Transmission Plant	\$867K

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<b>Total</b>	<b>\$3,534K</b>
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**Sample Transmission Package 5****150 KW ERP UHF (best case)****Existing tower site**

Existing tower, minor modification	\$10K
Existing building, minor modification	\$10K
Legal fees, no complaints	\$5K
Engineering/antenna system	\$36K
Engineering/FAA & FCC	\$50K
Engineering/tower	\$8K
Transmission Plant	\$997K
Total	<hr/> \$1,116K

**Sample Transmission Package 6****150 KW ERP UHF (worst case)**

New tower site & tower	\$2,410K
New building	\$113K
Legal fees	\$50K
Engineering/antenna system	\$36K
Engineering/FAA&FCC	\$50K
Engineering/tower	\$8K
Transmission Plant	\$997K
Total	<hr/> \$3,664K

## **VI. Broadcast Origination/Studio Plant**

**MODEL #1 HDTV - PASS-THROUGH NETWORK PROGRAMMING**

**HDTV Broadcast Operations**

1	Broadcast/routing switcher	\$80K/each	\$80K
4	HD color monitors 4 - 18"	\$11K/each	\$44K
	Video signal processing/distribution		\$35K
1	Upconverter	\$50K/each	\$50K
1	Downconverter	\$50K/each	\$50K
2	HD Precision WM	\$12K/each	\$24K
2	HD Precision Signal Monitors	\$20K/each	\$40K
12	HD B&W monitors (8")	\$2K/each	\$24K
	Audio monitoring (4 ch.)	\$10K/each	\$10K
	HD Studio Test Equipment		\$75K
	WB Oscilloscope	\$15K	
	HD Test Generator	\$26K	
	Bit Error Rate Analyzer	\$12K	
	Tools	\$15K	
	Misc	\$7K	
1	Precision Demodulators	\$22K/each	\$22K
1	Demultiplexers	\$15K/each	\$15K

**MODEL #1 HDTV - continued**

**HDTV PBS Feeds**

1	HD satellite receiver	\$10K/each	\$10K
1	HD character generator	\$60K/each	\$60K
1	HD still store	\$70K/each	\$70K
1	HD sync generator/pulse distribution	\$25K/lot	\$25K
1	HD Frame Synchronizer	\$38K/each	\$38K

**HDTV Studio to Transmitter Links**

1	HD STL	\$48K/each	\$48K
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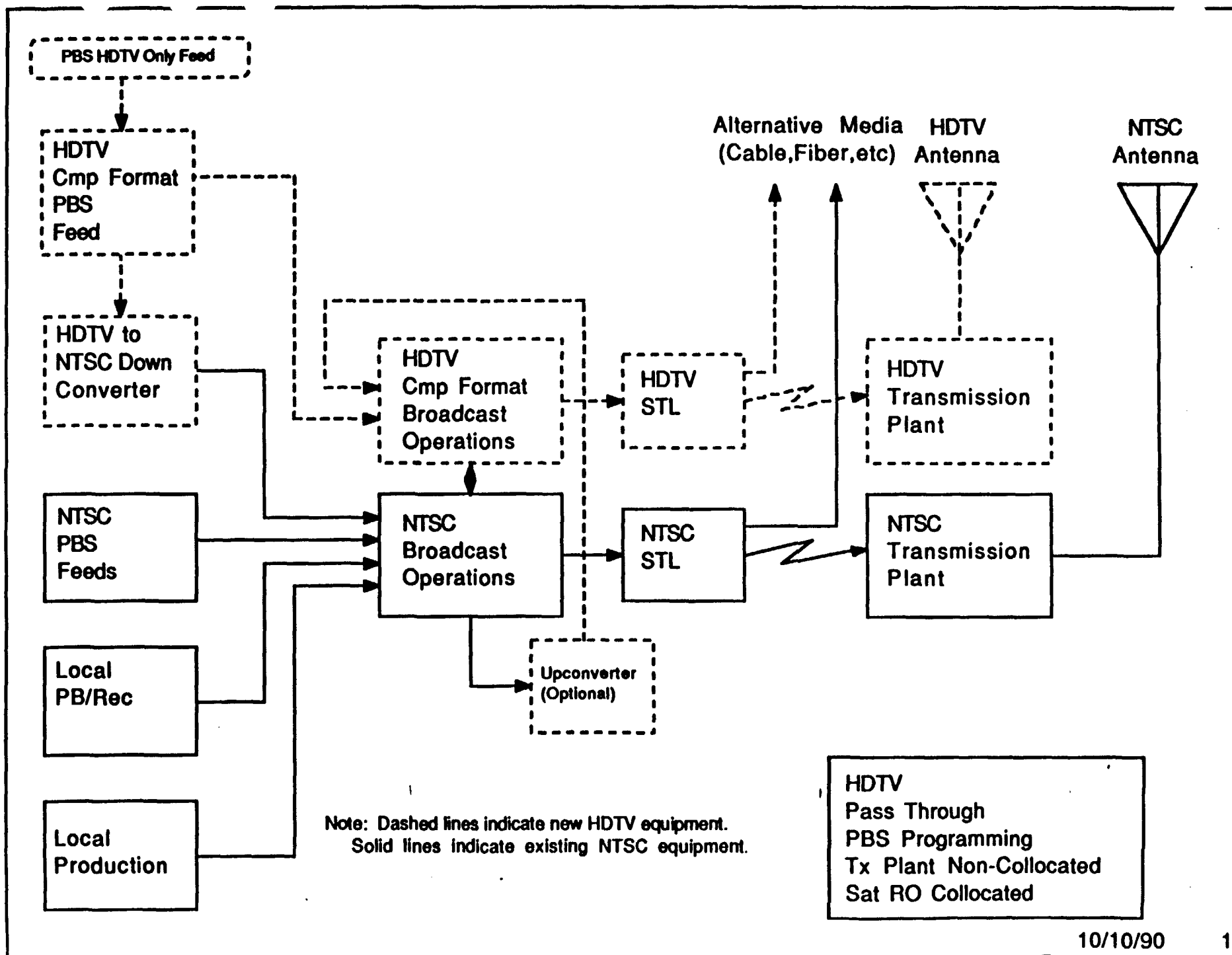
Subtotal	\$720K
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Installation Materials (7%)	\$50K
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Total for Model 1	\$770K
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**MODEL #2 HDTV - LIMITED LOCAL PLAYBACK CAPABILITIES**

4	HD compressed format VTR's	\$80K/each	\$320K
	Router Expansion for HD VTR's		\$80K
8	HD B&W Monitors (8")	\$2K/each	\$16K
2	HD 14" color monitors	\$11K/each	\$22K
2	HD Utility WM	\$6K/each	\$12K
1	HD Precision WM	\$12K/each	\$12K
1	HD Precision Signal Monitor	\$20K/each	\$20K

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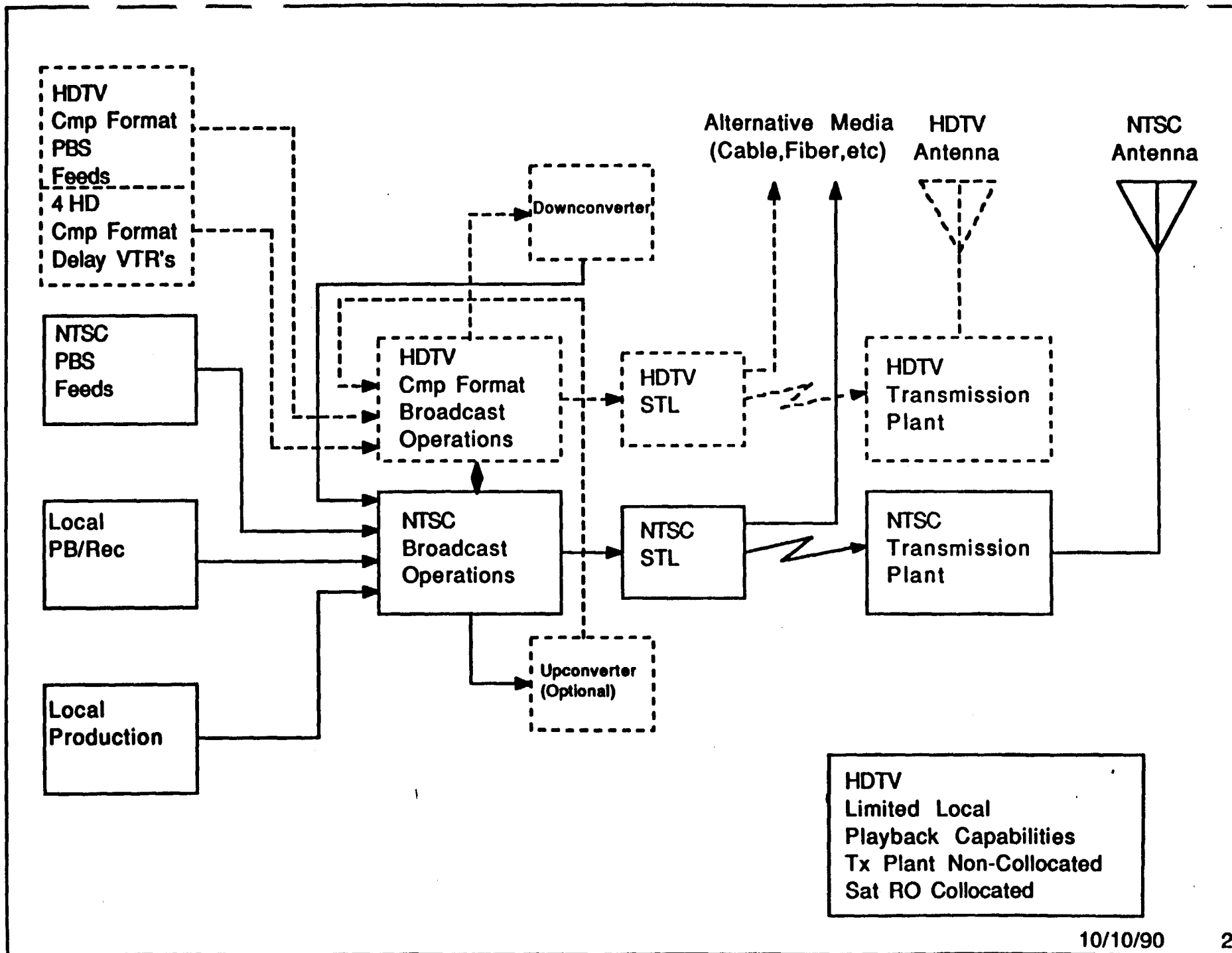
Subtotal	\$482K
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Installation Materials (5%)	\$24K
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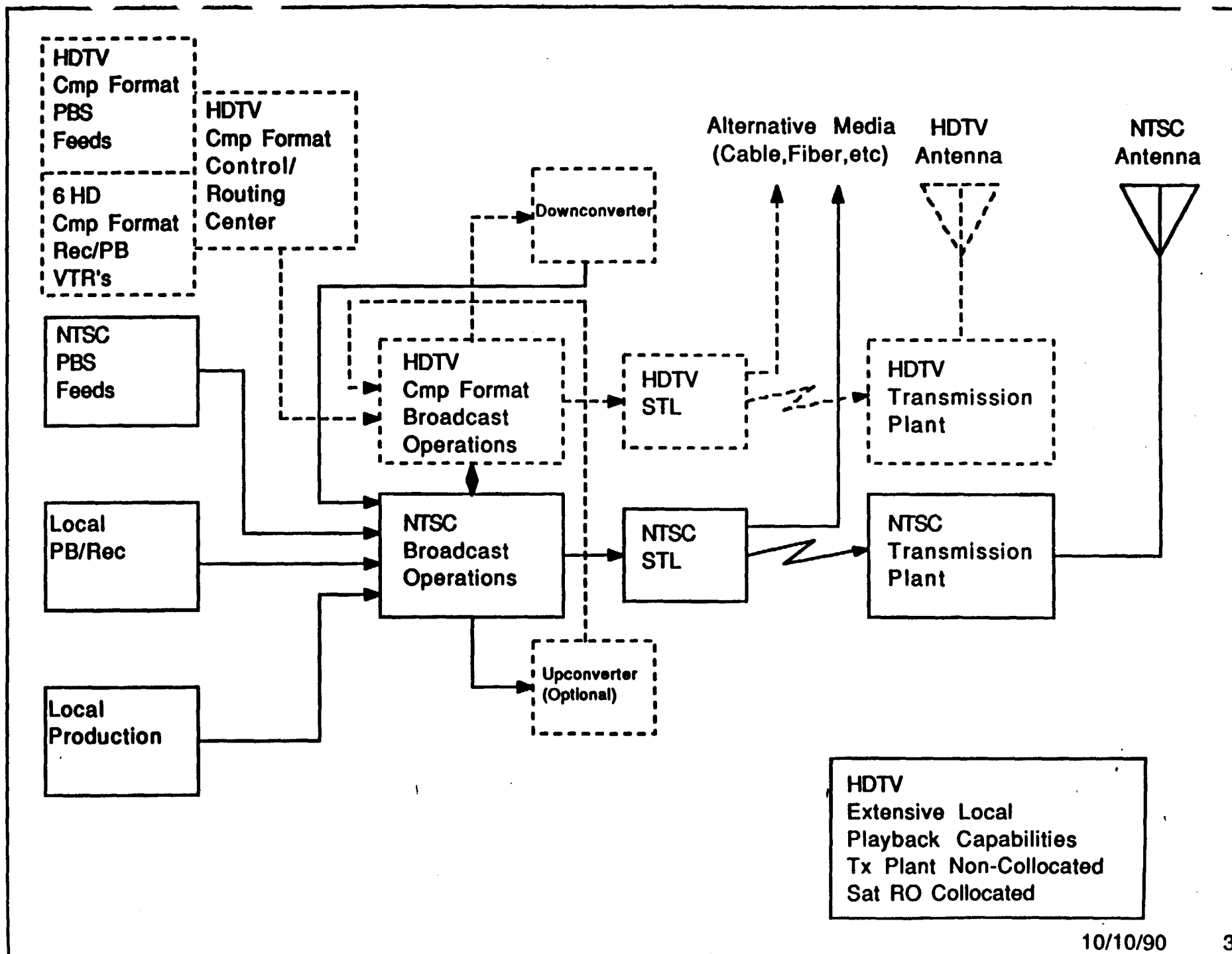
Model 2 Total	\$506K
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Total for Models 1 & 2	\$1,276K
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**MODEL #3 HDTV - EXTENSIVE LOCAL PLAYBACK CAPABILITIES**

2	HD compressed format VTR's	\$80K/each	\$160K
1	HD compressed format video cart machine	\$800/each	\$800K
	HD router expansion		\$40K
8	HD B&W monitors (8")	\$2K/each	\$16K
			<hr/>
Subtotal			\$1,016K
Installation Materials (5%)			\$51K
			<hr/>
Model 3 Total			\$1,067K
Total for Models 1, 2 and 3			\$2,343K



**MODEL #4 HDTV - PRODUCTION/POST/REMOTE CAPABILITIES**

**Broadcast Format Equipment (Compressed Format)**

2	HD compressed format VTR's	\$80K/each	\$160K
	HD router expansion		\$40K
4	HD B&W Monitors (8" Dual)	\$2K/each	\$8K
1	HD STL (Add Redundancy)	\$48K/each	\$48K

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Distribution Subtotal	\$256K
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**MODEL #4 HDTV - continued**

**Production Format Equipment (Wideband Format)**  
**(all of the following operates in a full bandwidth format)**

**Studio Production Equipment**

<b>3</b>	<b>HD VTR's</b>	<b>\$320K/each</b>	<b>\$960K</b>
<b>1</b>	<b>HD routing switcher</b>	<b>\$160K/each</b>	<b>\$160K</b>
<b>3</b>	<b>HD cameras</b>	<b>\$375K/each</b>	<b>\$1125K</b>
<b>1</b>	<b>HD switcher</b>	<b>\$400K/each</b>	<b>\$400K</b>
	<b>HD signal distribution/processing</b>		<b>\$35K</b>
<b>1</b>	<b>HD DVE</b>	<b>\$250K/each</b>	<b>\$250K</b>
	<b>HD signal distribution</b>		<b>\$75K</b>
<b>1</b>	<b>HD compressed/Full Band Format Converter</b>	<b>\$50K/each</b>	<b>\$50K</b>
<b>1</b>	<b>HD character generator</b>	<b>\$120K/each</b>	<b>\$120K</b>
	<b>HD sync system/distribution</b>		<b>\$75K</b>

**MODEL #4 HDTV - continued**

2	HD Color Monitors (28")	\$25K/each	\$50K
4	HD Color Monitors (18")	\$11K/each	\$44K
13	HD B&W Monitors (14")	\$3.7K/each	\$48K
8	HD B&W Monitors (8")	\$2K/each	\$16K
8	HD Utility WM's	\$6K/each	\$48K
1	HD Frame Synchronizer	\$38K/each	\$38K
	HD Test Equipment		\$100K
1	HD Precision WM	\$12K/each	\$12K
1	HD Precision Signal Monitor	\$20K/each	\$20K

**Field Production**

1	HD field camera	\$375K/each	\$375K
1	HD field VTR	\$320K/each	\$320K



**MODEL #4 HDTV - continued**

**Post Production**

<b>1</b>	<b>HD editing system</b>	<b>\$50K/each</b>	<b>\$50K</b>
<b>1</b>	<b>HD editing switcher/signal processing</b>		<b>\$350K</b>
<b>1</b>	<b>HD DVE</b>	<b>\$250K/each</b>	<b>\$250K</b>
<b>1</b>	<b>HD paint system</b>	<b>\$500K/each</b>	<b>\$500K</b>
<b>1</b>	<b>HD character generator</b>	<b>\$120K/each</b>	<b>\$120K</b>
<b>4</b>	<b>HD color monltors (18")</b>	<b>\$11K/each</b>	<b>\$44K</b>
<b>8</b>	<b>HD B&amp;W monitors</b>	<b>\$2K/each</b>	<b>\$16K</b>
<b>2</b>	<b>HD utillty WM</b>	<b>\$6K/each</b>	<b>\$12K</b>
<b>1</b>	<b>HD Signal Monitor</b>	<b>\$20K/each</b>	<b>\$20K</b>

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<b>Production Subtotal</b>	<b>\$5,683K</b>
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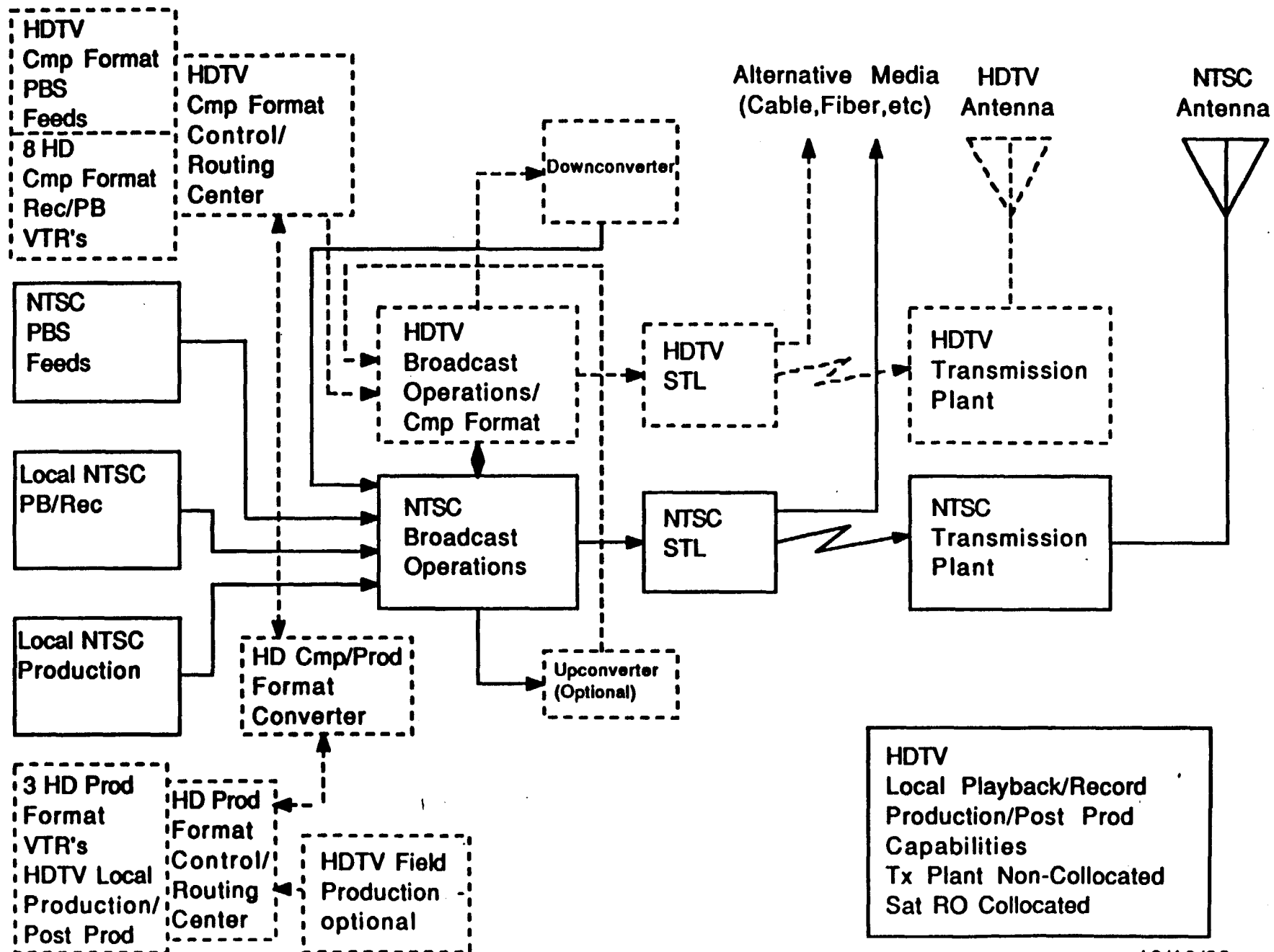
<b>Installation Materials/Spares (5%)</b>	<b>284K</b>
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<b>Production Total</b>	<b>\$5,967K</b>
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<b>Model 4 Total</b>	<b>\$6,223K</b>
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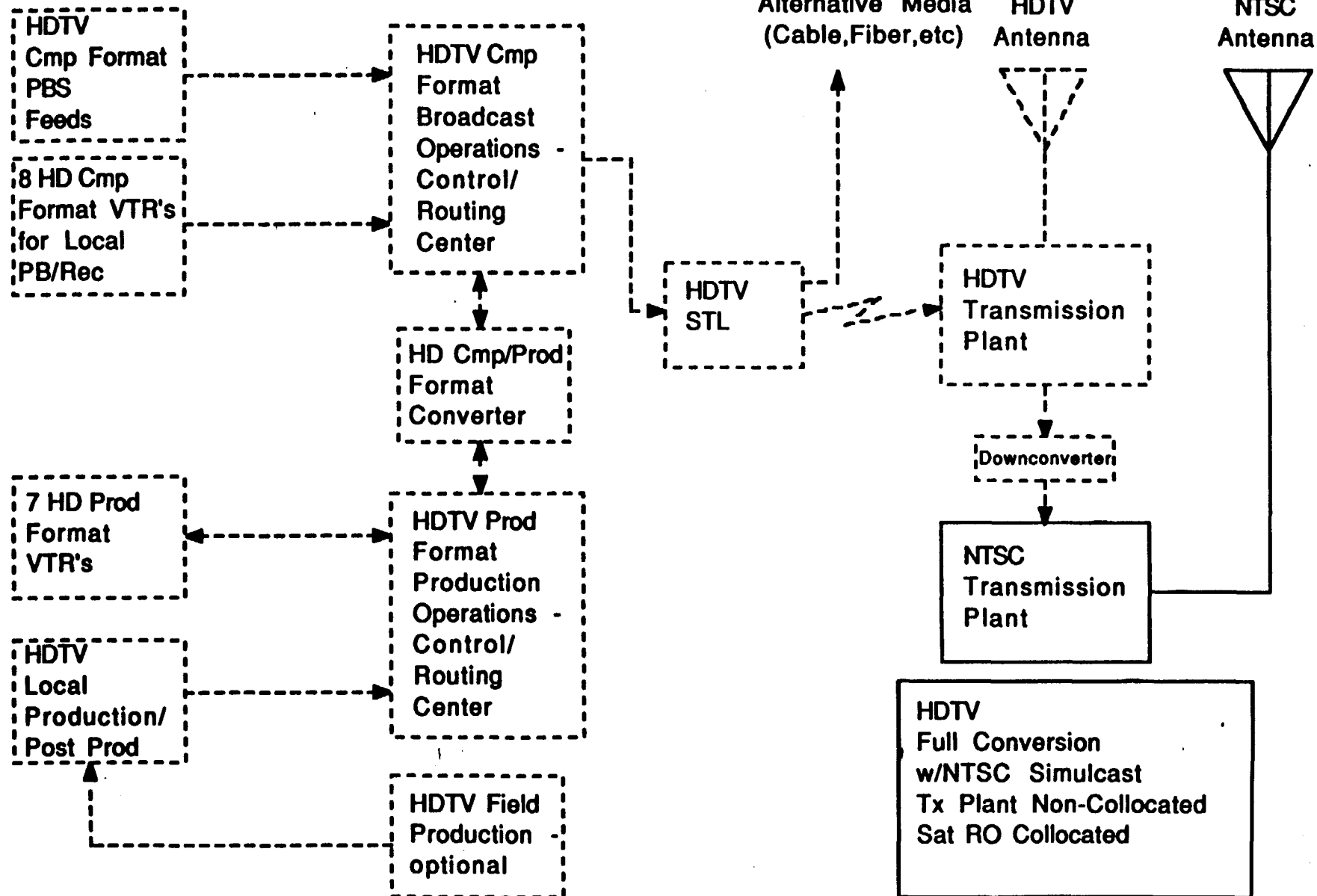
<b>Total for Models 1, 2, 3, &amp; 4</b>	<b>\$8,566K</b>
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HDTV  
Local Playback/Record  
Production/Post Prod  
Capabilities  
Tx Plant Non-Collocated  
Sat RO Collocated

**MODEL #5 HDTV - FULL CONVERSION**

<b>4</b>	<b>HD wideband VTR's</b>	<b>\$320K/each</b>	<b>\$1,280K</b>
<b>8</b>	<b>HD B&amp;W monitors (8")</b>	<b>\$2K/each</b>	<b>\$16K</b>
			<hr/>
<b>Subtotal</b>			<b>\$1,296K</b>
<b>Installation Materials (5%)</b>			<b>\$65K</b>
			<hr/>
<b>Model 5 Total</b>			<b>\$1,361K</b>
			<hr/>
<b>Total for Models 1, 2, 3, 4, &amp; 5</b>			<b>\$9,776K</b>



## **VII. Complete Station Packages**

**Pass-Through Network Programming**

VHF Station, Low Band (best case)	
Transmission Package 1	\$936K
Broadcast Origination (Model 1)	\$770K
Total	<hr/> \$1.706M

VHF Station, Low Band (worst case)	
Transmission Package 2	\$3,484K
Broadcast Origination (Model 1)	\$770K
Total	<hr/> \$4.254M

VHF Station, High Band (best case)	
Transmission Package 3	\$986K
Broadcast Origination (Model 1)	\$770K
Total	<hr/> \$1.756M

VHF Station, High Band (worst case)	
Transmission Package 4	\$3,534K
Broadcast Origination (Model 1)	\$770K
Total	<hr/> \$4.304M

UHF Station (best case)	
Transmission Package 5	\$1,116K
Broadcast Origination (Model 1)	\$770K
Total	<hr/> \$1.886M

UHF Station (worst case)	
Transmission Package 6	\$3,664K
Broadcast Origination (Model 1)	\$770K
Total	<hr/> \$4.434M

**Limited Playback**

VHF Station, Low Band (best case)	
Transmission Package 1	\$936K
Broadcast Origination (Model 2)	\$1,276K
Total	<hr/> \$2.212M
VHF Station, Low Band (worst case)	
Transmission Package 2	\$3,484K
Broadcast Origination (Model 2)	\$1,276K
Total	<hr/> \$4.760M
VHF Station, High Band (best case)	
Transmission Package 3	\$986K
Broadcast Origination (Model 2)	\$1,276K
Total	<hr/> \$2.262M
VHF Station, High Band (worst case)	
Transmission Package 4	\$3,534K
Broadcast Origination (Model 2)	\$1,276K
Total	<hr/> \$4.810M
UHF Station (best case)	
Transmission Package 5	\$1,116K
Broadcast Origination (Model 2)	\$1,276K
Total	<hr/> \$2.392M
UHF Station (worst case)	
Transmission Package 6	\$3,664K
Broadcast Origination (Model 2)	\$1,276K
Total	<hr/> \$4.940M

**Production**

VHF Station, Low Band (best case)	
Transmission Package 1	\$936K
Broadcast Origination (Model 4)	\$8,566K
Total	<hr/> \$9.502M
VHF Station, Low Band (worst case)	
Transmission Package 2	\$3,484K
Broadcast Origination (Model 4)	\$8,566K
Total	<hr/> \$12.050M
VHF Station, High Band (best case)	
Transmission Package 3	\$986K
Broadcast Origination (Model 4)	\$8,566K
Total	<hr/> \$9.552M
VHF Station, High Band (worst case)	
Transmission Package 4	\$3,534K
Broadcast Origination (Model 4)	\$8,566K
Total	<hr/> \$12.100M
UHF Station (best case)	
Transmission Package 5	\$1,116K
Broadcast Origination (Model 4)	\$8,566K
Total	<hr/> \$9.682M
UHF Station (worst case)	
Transmission Package 6	\$3,664K
Broadcast Origination (Model 4)	\$8,566K
Total	<hr/> \$12.230M



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FOURTH INTERIM REPORT  
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OF THE  
FCC ADVISORY COMMITTEE ON  
ADVANCED TELEVISION SERVICE

Craig K. Tanner  
Chairman

Bronwen L. Jones  
Vice Chairman

March 19, 1991